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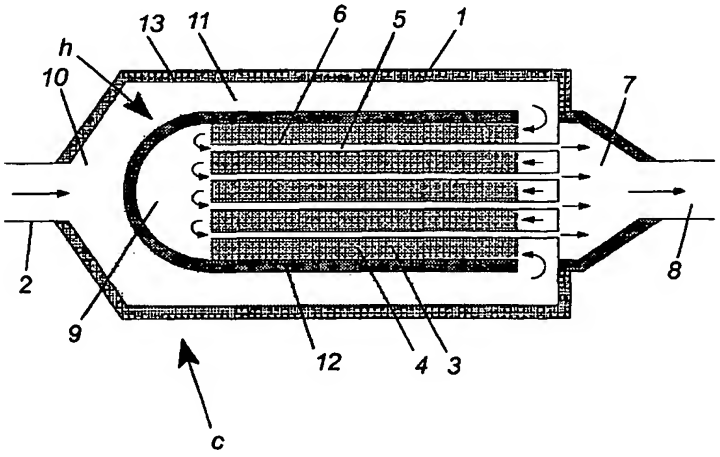
(54) Title: CATALYTIC DEVICE WITH INTERNAL HEAT EXCHANGE



(57) Abstract: The invention relates to a catalytic device with internal heat exchange that among other things can be used for vehicles with an internal combustion engine or for stationary engines where there is a certain amount of unburned gas components in the exhaust that can be converted in the catalyst. By the invention it is obtained that the maximum temperature in the catalyst is always nearly constant whatever the inlet temperature. Hereby, the catalyst can be designed to work at a very specific temperature, by which it is possible, partly to ensure a better and safer burnout of the unburned components, and partly to save expenses for catalyst materials. The exhaust gas is guided through the catalyst (1) by at least three passage sections that have a mutual internal heat exchange. In the main reaction passage section (3) there are catalytic materials (4) of one or several kinds, in which the gas can react, and in which the gases heat exchange with the succeeding main heat transfer passage section passage (5). The specific design makes the heat exchanger more efficient the slower the chemical reactions in the catalyst are, and vice versa. Therefore, the catalytic device will, by itself, set itself for the right temperature so that all reactions precisely can be completed in the catalytic device.

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